
Monk Parakeets



Figure 1. Monk parakeets (*Myiopsitta monachus*) at a nest in an electric utility substation in south Florida.

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Overview of Damage Prevention and Control Methods

Habitat Modification

- Use of transmission line towers constructed with tubular girders

Exclusion

- Hard plastic anti-perching cones
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Frightening Devices

- Hand-held laser

Repellents

- None found effective

Reproductive Control

- Nest removal provides only short-term relief because birds quickly begin to rebuild
- Diazacon currently is not registered with the EPA for control of monk parakeets

Toxicants

- None registered

Trapping

- Cage traps and remotely triggered traps
- Long-handled nets to capture birds at nests

Shooting

- Shooting is seldom used because monk parakeets frequent populated areas and usually nest on sensitive electric utility equipment

Species Profile

Identification

The subspecies of monk parakeet (Figure 1) that exists in the US is *Myiopsitta monachus monachus*.

Physical Description

The monk parakeet, also known as Quaker parakeet, is a medium-sized parrot (3 to 4 ounces and about 11 inches long). On average, adult males are slightly larger than adult females except during the breeding season when body mass of females increases slightly. The plumage is green on the back and tail, and grayish on the underside. The wings are dull green with the outer wing feathers blue. The tail is long and graduated, and the bill is thick and yellowish brown with a brownish tip. Adult males and females are identical in plumage. Juveniles resemble adults except that the feathers on the forehead of juveniles, are darker (slate gray) than those of adults (gray-white). The gray head and breast of the species distinguishes it from other parrots in North America.

Range

The monk parakeet is native to South America, occurring from central Bolivia and southern Brazil south to central Argentina. The species has become established in the mainland US, Canada, Puerto Rico, Bahamas, West Indies, England, Belgium, Italy, Spain, Israel, and elsewhere through accidental and purposeful introduction (Figure 2).



Figure.1. Formerly, thousands of monk parakeets were imported annually from South America.

The species was imported in large numbers for the pet trade and it first became established in the United States during the 1960s. The monk parakeet first appeared in New York in 1968, and was first recorded breeding in Florida in 1969. Today, thriving populations of monk parakeets occur in several states, particularly New York, Connecticut, Illinois, Texas, Louisiana, and Florida (Figure 3).



Figure 3. Distribution of monk parakeets in North America.

Voice and Sounds

Monk parakeets produce a variety of vocalizations. Distinctive contact calls are especially raucous and can be annoying to homeowners living near a colony.

General Biology

Reproduction

Monk parakeets are monogamous. A pair produces 1 clutch of 4 to 8 eggs annually during the well-defined spring breeding season. The female incubates the eggs and broods the nestlings while the male contributes nest materials and brings food to the female.

In Argentina (and presumably the US), parakeets do not breed until their second year, and then only 50 to 63% of them do so. Each year, a substantial number of breeding age birds do not breed.

Nesting Cover

The monk parakeet is unique among psittacines in that it does not nest in cavities, but rather constructs a large, bulky nest of sticks and branches, typically 2.5 to 3.5 feet in diameter. The nest is maintained throughout the year and is the focus of the social life of the resident pair and their offspring (Figure 4).

Nesting usually occurs in colonies. The colony includes single and compound nest structures closely spaced among a few trees, or on a cell tower, transmission line tower, or electric utility sub-station. A given compound nest structure may contain several chambers, each used by a different pair of birds. Compound nests are maintained by all birds using the structure, including non-breeders.



Figure 4. Monk parakeets maintain their nest throughout the year.

Mortality

In Argentina, annual survival rates of first-year birds and adults were estimated to be 61% and 81%, respectively.

In South America, raptors, snakes, and white-eared opossum prey upon monk parakeets, but no documented predation has been reported from the US. Fish crows remove branches from parakeet nests and stick their heads inside, apparently searching for eggs or nestlings.

Population Status

In the US, populations of monk parakeets are tracked through the Audubon Society's annual Christmas Bird Count. The population in the US exhibited exponential growth through the early 2000s. More recently, however, the trend appears to have turned downward, although the reason for this apparent reversal is unknown.

Habitat

In its native range, the monk parakeet typically inhabits open savannas and cropland with scattered native trees and groves of eucalyptus planted near houses for windbreaks. In the US,

the species favors urban-suburban areas where human activity provides abundant nesting sites and food sources. Persistent parakeet populations in cities with harsh winters such as Chicago and New York attest to the species' ability to adapt to different climates and habitats.

Behavior

The monk parakeet does not compete with native birds for nesting cavities because they build nests of sticks and branches on their own. It is a generalist in food selection and frequents backyard feeders, but there is no indication that it competes with native birds for food. Free-flying parakeets are not known to carry any diseases that might affect humans or wildlife. A reported death of a bald eagle nestling in 2004 may have been due to a chlamydial infection associated with a monk parakeet nest situated at the base of the nest, but no confirmatory analyses were conducted. Parakeets occasionally construct nests at the base of osprey nests.

In general, movements to feeding sites are short, within 1.9 to 3.1 miles of the nest colony. In South America, juvenile birds generally disperse less than 6.2 miles from the natal site. In Florida, a median dispersal distance of 14.9 miles was reported.

Food Habits

Monk parakeets primarily eat a variety of fruit, seeds, buds, and flowers. In its native range, the species is regarded as a major pest to crops such as sorghum, sunflower, and rice. To date, widespread crop damage in the US by monk parakeets has not materialized as originally anticipated. In the US, the diet of monk

parakeet varies seasonally as birds exploit the changing availability of native and introduced plants. Backyard bird feeders provide reliable sources of food, especially sunflower seeds, which are particularly important in winter.

Legal Status

Monk parakeets are non-native and therefore not protected by the federal Migratory Bird Treaty Act (MBTA). Its status at the state level varies considerably, from no regulation to complete protection. Thus, it is best to consult with the appropriate local wildlife management agency before initiating any control efforts. The monk parakeet is a popular cage bird, and although imports from South America have ceased, many are available in the US through captive breeding and from individuals who take young birds from nests.

Human Wildlife Conflicts

Landscapes

In southern Florida, monk parakeets and other birds are responsible for localized damage to tropical fruit crops such as longans and mangos (Figure 5).



Figure 5. Monk parakeets feeding in a longan orchard in south Florida.

Structures

The principle management issue associated with monk parakeets in the US is their impact on electric utility facilities. The impact is due to the birds' nest-building behavior and their habit of constructing nests on human-made structures, particularly electric utility substations, distribution poles, and transmission line towers. In southern Florida, 60% of the monk parakeet nests in one study were located on energized electric utility equipment, 20% on other human-made structures, and 20% in trees. A given substation can host more than 30 parakeet nests, with an estimated parakeet populations greater than 100 birds. The number of substations with parakeet nests in southern Florida increased from 38 in 2001 to 62 in 2007. The nature of the high-voltage, energized environment of the substation makes nest removals very dangerous unless the substation is taken off line. This is not a common occurrence because of the expense and disruption of service.

Economic impacts result from decreased reliability of electricity, damage to equipment, lost revenue from power outages, and increased costs associated with nest removal and repair of damaged structures. The frequency of outages increases during wet weather. Outages result from nesting material completing a circuit between two energized components, or between an energized part and a grounded part of electrical equipment. The nest itself can get too large and complete an electric circuit, or individual parakeets carrying nest material can cause a short circuit. Resulting fires can damage transformers and other utility equipment. Damage management options at electric utility facilities vary with the type of facility. Trained utility employees or their

authorized agents should carry out any management actions associated with electric utility facilities.

Wildlife Damage Prevention and Control Methods

Integrated Wildlife Management

Electric utility companies remove parakeet nests from their structures to maintain service reliability. To date, no method has been devised to prevent parakeets from nesting on substations, distribution poles, or transmission towers. Parakeets sometimes are removed by live-trapping or captured in long-handled nets. Combining removal of nests with removal of birds would provide more effective, longer-term relief than either approach singly.

Habitat Modification

Nesting parakeets in southern Florida demonstrate distinct preferences for certain types of transmission towers over others. In 2006, 86% of monk parakeet nests on transmission lines were on the H-frame concrete towers compared to less than 1% built on H-frame tubular towers. The tubular construction creates few flat surfaces and angles, thereby greatly reducing preferred nesting substrates. New construction of transmission lines should incorporate such findings and adopt designs shown to be unattractive to parakeets. On existing structures, management actions are limited to nest removal by the utility company (Figure 6).



Figure 6. At electric utility substations, monk parakeet nesting is an on-going maintenance concern.

Nest removal is the most common method used to manage parakeet problems on utility structures. This provides only short-term relief, however, because parakeets tend to rebuild their nests immediately. On distribution poles, the most effective control method is nest removal, preceded by trapping and euthanizing the nesting birds (Figure 7). This management approach reduced the number of parakeet nests on distribution poles in southern Florida from 349 in 2001 to 142 in 2006.

An alternative management approach is to provide parakeets with attractive nest substrates adjacent to distribution poles to induce them to switch nesting locations. This approach would not be cost-effective or practical on a large scale, but has been applied with limited success to address persistent, isolated problems at specific locations.



Figure 7. Removal of monk parakeet nests from electric utility distribution poles is a short-term solution as birds quickly rebuild.

Exclusion

No practical means exist for excluding monk parakeets from nesting on distribution poles or in substations. Electric track or other shock devices have not been evaluated for this use. On transmission line towers, installation of hard plastic anti-perching cones can be somewhat effective. Faulty installation, however, can create excellent nesting opportunities for parakeets (Figure 8).



Figure 8. Nesting and perch-deterrent measures often are ineffective.

Frightening Devices

Audible and visual frightening devices have been tested at substations but have not been shown to be effective. Red laser lights flushed birds from their nests but they returned the following day. Green lasers have not been tested.

Repellents

Various chemical deterrents have been tested at substations to deter parakeets from nesting, but none has been effective

Reproductive Control

The nests of monk parakeets can be removed by hand, but nest removal provides only short-term relief because birds quickly begin to rebuild their nests (Figure 7).

Population reduction through application of the contraceptive diazacon has shown promise as a means to lower parakeet productivity and thereby over time reduce the incidence of nesting. In a 2-year study in south Florida, productivity decreased 68% at 100 nests where diazacon-treated bait was presented, compared to 50 nests without the treatment. The use of reproductive control is a long-term strategy. For now, this method remains experimental as diazacon is not yet registered with the EPA.

Toxicants

None are registered.

Trapping

Trapping at the nest, with a long-handled net (Figure 9), is most effective after dark when parakeets in the nest are less likely to fly. Birds that are trapped can then be humanely euthanized using carbon dioxide.



Figure 9. Special long-handled nets have been developed for parakeet removal at nests.

At substations, parakeets can be captured using small, baited cage traps. A utility company in southern Florida removed hundreds of birds at several substations by hiring a wildlife control operator that used this approach.

Parakeets can be trapped in small groups by establishing a feeding platform equipped with a remotely triggered spring-loaded netted trap. The operator observes at a distance and avoids capturing non-targets by activating the trap when only parakeets are present (Figure 10).



Figure 10. After the observer confirms non-target species are not present, the trap is triggered to capture monk parakeets.

Shooting

The vast majority of monk parakeets in the US nest, feed, and fly in populated areas, which severely restricts opportunities for use of firearms. When considering shooting, awareness of applicable local ordinances is essential.

Handling

Monk parakeets have strong, sharp beaks and will inflict painful bites if handled carelessly. Leather gloves offer some protection, but can also make it difficult to handle the bird securely.

Relocation

As a management practice, there is little to recommend this method, as no data exist to support its use. Many states prohibit release of

non-native species and several states prohibit monk parakeets altogether.

Translocation

Moving an invasive species such as the monk parakeet to a new area creates new problems. Translocation is not an effective, practical management method and in several states is not legal.

Euthanasia

Asphyxiation by carbon dioxide is approved by the American Veterinary Medical Association (AVMA). The AVMA also approves cervical dislocation if performed by “well-trained personnel who are regularly monitored to ensure proficiency.”

Disposal

Check your local and state regulations regarding carcass disposal.

Economics of Wildlife Damage Prevention and Control

Monk parakeets construct and maintain their nests year-round, so there is no time when they do not pose a maintenance problem for utility companies. Power outages are anathema to electric utilities, which are responsible for delivering reliable electrical service to their clientele. Utility companies monitor their systems and determine when it is appropriate to remove nests to prevent costly service interruptions. In 2001, nest removal was estimated to cost \$1,000 per nest. Monk parakeets nest seasonally and nest removal could be timed to avoid inadvertently destroying eggs or nestlings.

Acknowledgments

Figures 2, 4, and 6. Photos by Michael L. Avery.

Figure 3. Photo by USFWS on-line image collection.

Figure 3. Photo from Spreyer and Bucher 1998, The Birds of North America.

Figures 5, 7, 8, 9, and 10. Photos by Eric A. Tillman.

Resources

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Key Words

electric utility structure, invasive species, monk parakeet, *Myiopsitta monachus*, nest removal, reproductive control.

Glossary

Electric utility structure: A sub-station, power distribution pole, or transmission line tower.

Invasive species: A non-native species “whose introduction does or is likely to cause economic or environmental harm or harm to human health.”

Nest removal: Action taken by utility personnel to dismantle and dispose of a nest made by a monk parakeet.

Reproductive control: Delivery of an oral contraceptive to prevent successful breeding; a long-term population reduction management tool.

Disclaimer

Implementation of wildlife damage management involves risks. Readers are advised to implement the safety information contained in the Manual of the National Wildlife Control Training Program.

Some control methods mentioned in this document may not be legal in your location. Always use repellents and toxicants in accordance with EPA-approved labels and your local regulations. Wildlife control operators must consult relevant authorities before instituting any wildlife control action.

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Editors

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